108801

Data Evaluation Record

1. CHEMICAL: Metobachlor (108801)

2. FORMULATION: Technical

3. CITATION: Vilkas, A.G.; (1976) Acute toxicity of CGA-24705 technical to the water flea Daphnia magna Straus. Aquatic Environmental Sciences. Received 11/76 under 100-LIT. (Unpublished report prepared by Ciba-Geigy Corp. Greensboro NC (226955).

4. REASON FOR REVIEW: Generic Standard for Metabachlor

5. REVIEWED BY: H.T. Craven
Biologist
Efficacy and Ecological Effects Branch
Registration Division

6. DATA REVIEWED: 2/2/78

7. TEST TYPE: Fresh water aquatic invertebrate acute 48 hr.

A. TEST ID: ES H1

B. TEST SPECIES: Daphnia magna Straus

C. TEST MATERIAL: CGA Technical

D. REPORTED RESULTS

The 48 hr LC_{50} to D. magna is 25.1 (21.6-29.2) mg/l (ppm). The 48 hr. no effect level was observed to be 5.6 mg/l (ppm).

E. SUMMARY OF CONCLUSIONS

The study is scientifically sound and with an LC_{50} of 25.1 ppm metabachlor is slightly toxic to aquatic invertebrates. The study does fulfill the requirements for an aquatic invertebrate acute LC_{50}.

MATERIALS AND METHODS

A. Five test levels ranging from 5.6 to 56 mg/l and two controls (acetone and acetone free) were established. Protocol followed that recommended by U.S. EPA (1975).

B. Statistical analysis: The LC_{50} values were calculated according to Thompson (1947).

DISCUSSION/RESULTS

No mortality occurred in any of the four replicates for each of the two controls throughout the test nor in the two lower dosage levels - 5.6 and 10.0 ppm - during the first 24 hours. After 48 hours 5% mortality occurred at 10.0 ppm. The no effect level was reported as 5.6 ppm. The 48 hour LC_{50} with 95% C.L. was 25.1 (21.6-29.2) ppm.

REVIEWER'S EVALUATION

A. Test Procedure

The test complies with the recommended EPA protocol (1975).

B. Statistical Analysis

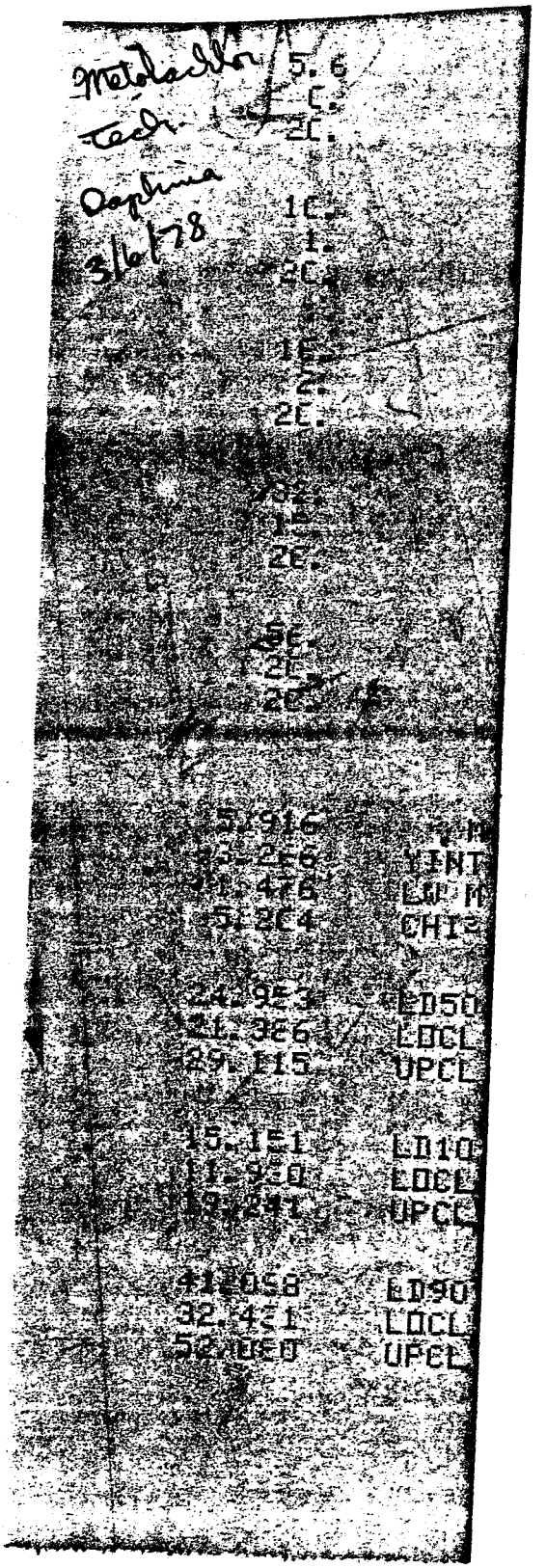
Validation

1. Category: Core

CONCLUSIONS

The study is scientifically sound and with an LC_{50} of 25.1 ppm is slightly toxic to aquatic invertebrates. The study does fulfill the requirement for an aquatic invertebrate acute LC_{50}.

The Environmental Safety section determined that the testing facility performed a modified Thompson (1947) by discarding the lowest dosage level to make K = 3 To calculate an f value. The result of this revision yielded a 48 hr. LC_{50} of 25.7 ppm. Further confirmation of the 48 hr. LC_{50} value was done by Finney Probit (see copy of print out). Probit analysis produced an LC_{50} with 95% C.L. of 24.9 (21.4 - 29.1) ppm.


metolachlor
5.6
C.
tech
2C.
Daphnia
3/16/78
1C.
1.
2C.
1C.
2.
2C.
5C.
2C.
2C.
5.916
3-266
YINT
21.476
LW M
5.204
CHI2
24.953
LD50
21.366
LOCL
29.115
UPCL
15.151
LD10
11.930
LOCL
19.241
UPCL
41.058
LD90
32.431
LOCL
52.060
UPCL